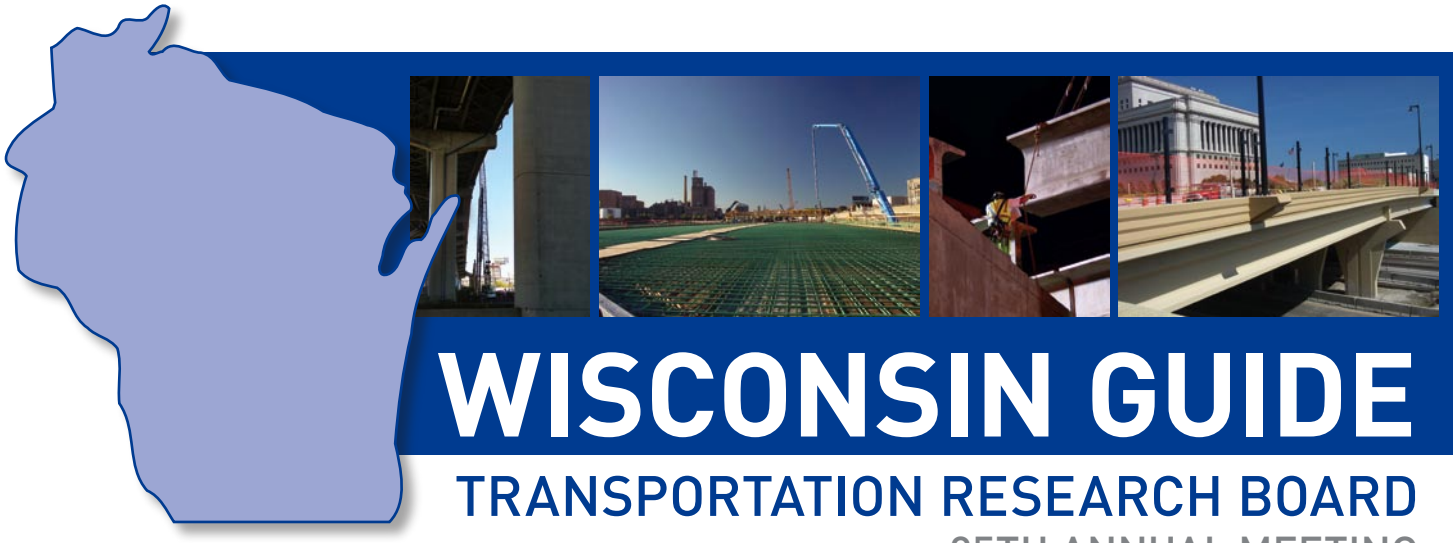

WISCONSIN GUIDE

TRANSPORTATION RESEARCH BOARD

85TH ANNUAL MEETING

January 22-26, 2006

Washington, D.C.

Welcome to the TRB Annual Meeting

We are pleased to provide this Wisconsin Guide to the TRB 85th Annual Meeting. On the following pages we highlight the contributions of WisDOT practitioners and Wisconsin university researchers who will be among this year's presenters and session leaders.

The TRB Annual Meeting provides an opportunity for some 9,000 transportation professionals from around the world to exchange information, knowledge and insights on research that can be put to work for a better transportation system. We hope this guide will facilitate dialogue among Wisconsin participants in the annual meeting, and among all Wisconsin transportation professionals in industry, academia and public agencies.

Many of the papers listed in this guide were made possible by federal and state research funds awarded to the Wisconsin Highway Research Program, the Midwest Regional University Transportation Center and the Wisconsin Traffic Operations and Safety Laboratory. We note these papers throughout the guide and provide Web links for additional information. On pages 11–12 we group presentations by program: WHRP, MRUTC and TOPS.

Finally, we hope you will join us at the Wisconsin Transportation Reception, hosted by the Transportation Development Association of Wisconsin from 5:30 to 7:30 p.m. Tuesday, an opportunity to relax with fellow Wisconsin transportation professionals. Both presenters and attendees are welcome.

Nina McLawhorn
Research Administrator, Wisconsin Department of Transportation

Hussain Bahia
Director, Wisconsin Highway Research Program

Teresa Adams
Director, Midwest Regional University Transportation Center

Bin Ran and **David Noyce**
Co-Directors, Wisconsin Traffic Operations and Safety Laboratory

You are invited to the

Wisconsin Transportation Reception

During the TRB Annual Meeting

Tuesday, January 24, 2006
5:30 p.m. - 7:30 p.m.

Omni Shoreham Hotel
Bird Cage
2500 Calvert Street NW
(at Connecticut Ave.)
Washington, D.C.

HOSTED BY

Wisconsin Transportation Center

TDA Transportation Development Association

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- Marquette University
- Wisconsin Asphalt Pavement Assoc.
- Wisconsin Concrete Pavement Assoc.
- Wisconsin Highway Research Program
- CH2M Hill
- TranSmart
- Wisconsin Department of Transportation

Cover photos: Construction of the Marquette Interchange in downtown Milwaukee (courtesy of Brian Manthey at WisDOT).

Wisconsin Presenters

The presentations of WisDOT staff, Wisconsin university researchers and others who received Wisconsin support are listed here by day with times, hotel and room locations, and brief summaries. Be sure to check the TRB Final Program for possible room changes. Also see the Interactive Annual Meeting Program at http://www.trb.org/am/ip/, where you can search for subjects, organizations or presenters of interest to you.

SUNDAY, JANUARY 22

8:30 a.m. – 12:00 p.m., Shoreham (Empire)

Workshop 111: Doctoral Student Research in Transportation Operations and Traffic Control

David A. Noyce (presiding)
University of Wisconsin, Madison

This workshop consists of reports of recently or nearly completed Ph.D. dissertations and research on transportation operations and traffic control.

8:30 a.m. – 5:00 p.m., Hilton (Caucus)

Workshop 133: Wildlife and Highways: Considerations and Solutions

8:45 a.m. – 10:05 a.m.: Planning—Integrating wildlife and fisheries issues with transportation planning

a. Issues with Wildlife and Highways

Keith Knapp
University of Wisconsin, Madison

1:30 p.m. – 5:00 p.m., Marriott (Salon 1)

Workshop 153: Practical Approaches to Design of Hot-Mix Asphalt

3:15 p.m. – 3:45 p.m.: Using the SGC to Estimate Rutting Resistance of HMA

Hussain U. Bahia
University of Wisconsin, Madison

1:30 p.m. – 5:30 p.m., Shoreham (Ambassador)

Workshop 157: Bridge and Tunnel Security Update

2:40 p.m. – 3:00 p.m.: Security of Structures—Tying Blast Design to Other Bridge Design Requirements

5:00 p.m. – 5:30 p.m.: Audience Discussion on Issues and Lessons Learned

Jeffrey L. Western
Wisconsin Department of Transportation

4:00 p.m. – 5:45 p.m., Marriott (Delaware)

Workshop 172: So You Want to Be a Transportation Professional?

4:30 p.m. – 4:50 p.m.: Working in a Public Agency

John Corbin
Wisconsin Department of Transportation

MONDAY, JANUARY 23

8:00 a.m. – 9:45 a.m., Shoreham (Diplomat)

Session 217: Vulnerability Risk Assessments: Accepted Practices

State's Perspective on Vulnerability Risk Assessments in Development and Implementation of Statewide Security Program (P06-0905)

Jeffrey L. Western
Wisconsin Department of Transportation

8:00 a.m. – 9:45 a.m., Hilton (Hemisphere)

Session 224: Improving the Conduct of Research Through Peer Review and Peer Exchanges

Improving Performance Through Peer Exchange (P06-0082)

Nina McLawhorn
Wisconsin Department of Transportation

8:00 a.m. – 12:00 p.m., Marriott (McKinley)

Committee Meeting: Disadvantaged Business Enterprises (DBE) Committee: Full Committee (AFH80)

Eugene S. Johnson (presiding)
Wisconsin Department of Transportation

MONDAY, JANUARY 23

9:30 a.m. – 12:00 p.m., Marriott (Washington)

Poster Session 239: Safety Data Analysis and Evaluation

Supported by TOPS

Analysis of the Magnitude and Predictability of Median Crossover Crashes Utilizing Logistic Regression (06-2681)

Xiaozhao Lu
University of Wisconsin, Madison

David A. Noyce
University of Wisconsin, Madison

Regan J. McKendry
University of Wisconsin, Madison

This research analyzed over 600 median crossover crashes on Wisconsin's divided highways to determine the magnitude, severity and predictability of these crashes. Researchers used ordinal logistic regression models to predict crash severity based on roadway and driver characteristics, traffic operations, incident management, temporal elements, and environmental factors.

9:30 a.m. – 12:00 p.m., Shoreham (Blue Room Foyer)

Poster Session 240: Current Issues and Challenges Facing Pavement Management Systems

Supported by MRUTC

Using Remote Sensor Data to Estimate Pavement Performance Models (06-0388)

Chih-Yuan Chu
Northwestern University

Pablo Luis Durango-Cohen
Northwestern University

Supported by MRUTC funds for research project 04-03, "Infrastructure Management Decision-Making with Condition Data Generated by Remote Sensors: A Time Series Framework." See the final report at http://www.mrutc.org/research/0403/.

9:30 a.m. – 12:00 p.m., Hilton (International Ctr.)

Poster Session 245: Tools for States and Locals: Performance Measures, Asset Management, and Data Management Tools to Improve Communication and Decision Making

Supported by MRUTC

Managing Local Roads with Wisconsin Information System for Local Roads (P06-0237)

Mary R. Ebeling
University of Wisconsin, Madison

Jason John Bittner
University of Wisconsin, Madison

Supported by MRUTC funds for the Transportation Management and Policy program. See more information at http://www.ies.wisc.edu/tmp/.

Wisconsin Information System for Local Roads (P06-1377)

Susie Forde
Wisconsin Department of Transportation

WisDOT has developed the Wisconsin Information System for Local Roads, a Web-based GIS data management system that serves as a gateway to data, maps, analytical tools and automated reporting functions. WISLR assists local governments with managing roads, streets and highways, allowing officials to view trends in data that might otherwise go unnoticed.

1:30 p.m. – 3:15 p.m., Marriott (Virginia C)

Session 289: Pavement Preservation: Getting Started

Supported by TOPS

Considerations for Establishing a Pavement Preservation Program (06-2490)

Teresa M. Adams
University of Wisconsin, Madison

Myungook Kang
University of Wisconsin, Madison

Maintenance crews have been performing pavement preservation for many years, but a formal pavement preservation program allows transportation agencies to analyze and justify preservation activities and costs based on extended pavement service lives and other benefits. This paper discusses the essential characteristics of pavement preservation programs along with common pavement preservation strategies.

1:30 p.m. – 3:15 p.m., Marriott (Salon 2)

Session 294: Using Traffic Control Devices to Reduce Speed

David A. Noyce (presiding)
University of Wisconsin, Madison

This session includes presentations on variable time headway criteria for improving reliability of speed control system evaluations; effectiveness of speed monitoring displays in reducing speed in school zones; design and evaluation of peripheral transverse bars to reduce vehicle speed; and effectiveness of animal advisory messages on dynamic message signs as a speed reduction tool.

1:30 p.m. – 5:30 p.m., Hilton (Map)

Committee Meeting: Public Transportation Planning and Development Committee: Full Committee (AP025)

Edward Beimborn (presiding)
University of Wisconsin, Milwaukee

2:30 p.m. – 5:00 p.m., Hilton (International Ctr.)

Poster Session 325: Integrated Land Use and Transportation Models

Relationship Between Land Use and Trip Internalization Behaviors: Evidence and Implications (06-1486)

Michael Greenwald
University of Wisconsin, Milwaukee

This paper addresses the relationship between land use and destination selection, and the affect of destination selection on travel mode choice, with a focus on internalized trips (where trip origin and destination are contained in the same geographic unit of analysis). Conclusions include that urban design elements do more to alter travel mode choice than to alter trip destination.

2:30 p.m. – 5:00 p.m., Hilton (International Ctr.)

Poster Session 329: Planning Mega Session

Cellular-Based Data-Extracting Method for Trip Distribution (06-1215)

Changxuan Pan
University of Wisconsin, Madison

In light of the rapid development of cell phone locating technologies, this paper presents a cellular-based method of extracting trip distribution data for urban transportation planning. In this method, the trip distribution table is generated with spatio-temporal information retrieved from cell phone subscribers. This method has been tested in Shanghai City, China, with favorable outcomes.

3:45 p.m. – 5:30 p.m., Marriott (Virginia C)

Session 343: Pavement Preservation: Construction and Performance Standards

Supported by WHRP

Impact of Increasing Roadway Construction Standards on Life-Cycle Costs of Local Residential Streets (06-2977)

Leslie Titus-Glover
Applied Research Associates, Inc.

David Hein
Applied Research Associates, Inc.

Shreenath Rao
Applied Research Associates, Inc.

Kelly Smith
Applied Research Associates, Inc.

Residential streets are requiring more frequent, extensive and costly maintenance and rehabilitation because of increased traffic combined with negative climate effects and frequent cutting and patching for utility placement. This study evaluated the impact on life-cycle costs of enhancing residential roadway construction standards to accommodate greater axle loads.

Supported by WHRP funds for WisDOT research project 0092-04-06, "Life Cycle Cost Analysis of SMA Pavements and SMA Application Guidelines." See project updates at http://www.dot.wisconsin.gov/library/research/reports/asphalt.htm.

3:45 p.m. – 5:30 p.m., Hilton (Hemisphere)

Session 356: Advanced Computing and Transportation Decision Support

Supported by TOPS

Moments Analysis for Improving Decision Reliability Based on Travel Time (06-1373)

Jiangang Lu
University of Wisconsin, Madison

Bin Ran
University of Wisconsin, Madison

Because of the existence of traffic congestion, especially nonrecurring traffic congestion, travel time is generally a random variable with an asymmetric historical distribution. This paper proposes a method for improving decision reliability through analysis of the moments and central moments of historical travel time data.

MONDAY, JANUARY 23

7:30 p.m. – 9:30 p.m., Marriott (Virginia B)

Session 372: Evaluation of Subgrade Resilient Modulus

Supported by WHRP

Evaluation of Resilient Modulus Model Parameters for Mechanistic-Empirical Pavement Design (06-2308)

Hani H. Titi
University of Wisconsin, Milwaukee

This research developed correlations for estimating the resilient modulus of various Wisconsin subgrade soils from basic soil properties. Laboratory testing evaluated the soils' physical and compaction properties; resilient modulus was determined from repeated load triaxial testing.

Supported by WHRP funds for WisDOT research project 0092-03-11, "Determination of Typical Resilient Modulus Values for Selected Soils in Wisconsin." See project updates at http://www.dot.wisconsin.gov/library/research/reports/geotechnics.htm.

7:30 p.m. – 9:30 p.m., Shoreham (Blue Room)

Session 381: Innovative Uses of Fiber-Reinforced Plastics in Bridges

Development of Cost-Effective Structural FRP Stay-in-Place Formwork System for Accelerated and Durable Bridge Deck Construction (06-2218)

Thomas E. Ringelstetter
University of Wisconsin, Madison

Lawrence C. Bank
University of Wisconsin, Madison

Michael G. Oliva
University of Wisconsin, Madison

Jeffrey S. Russell
University of Wisconsin, Madison

This paper describes the evolution of a cost-effective, structural fiber-reinforced polymer stay-in-place formwork system for bridge deck construction that is integrated with a modular three-dimensional FRP reinforcement cage. Two different types of FRP reinforcement and formwork systems were tested.

7:30 p.m. – 9:30 p.m., Shoreham (Hampton)

Session 385: Transportation Security Performance Measures: Point/Counterpoint

State Department of Transportation Perspective (P06-0919)

Jeffrey L. Western
Wisconsin Department of Transportation

TUESDAY, JANUARY 24

8:00 a.m. – 9:45 a.m., Marriott (Maryland C)

Session 400: Accessible Pedestrian Signals and Walking Speeds

Supported by TOPS

Recommended Walking Speeds for Pedestrian Clearance Timing Based on Pedestrian Characteristics (06-1826)

Tim J. Gates
University of Wisconsin, Madison

David A. Noyce
University of Wisconsin, Madison

Andrea R. Bill
University of Wisconsin, Madison

Nathanael Van Ee
University of Wisconsin, Madison

Researchers found that the 4.0 feet per second walking speed commonly used to time pedestrian clearance intervals does not provide ample clearance time for the majority of pedestrians over age 65, children assisted by adults, physically disabled persons, and large groups. They recommend using a 3.8 feet per second walking speed for most locations, and slower speeds in areas with large over-65 populations.

9:30 a.m. – 12:00 p.m., Marriott (Washington)

Poster Session 440: Pedestrians and Safety

Supported by TOPS

Analysis of Driver and Pedestrian Comprehension of Requirements for Permissive Left-Turn Applications (06-2635)

David A. Noyce
University of Wisconsin, Madison

Drivers completing a permissive left-turn movement often must yield to both opposing vehicles and pedestrians prior to selecting an appropriate gap. This study indicates that the flashing yellow arrow permissive indication can be used as a safe and effective alternative to the existing circular green permissive indication at intersections with pedestrian activities.

9:30 a.m. – 12:00 p.m., Hilton (International Ctr.)

Poster Session 444: Artificial Intelligence Tools for Transportation Data Modeling

Supported by TOPS

Traffic Estimation Based on Particle Filtering with Stochastic State Reconstruction Using Mobile Network Data (06-2395)

Zhijun Qiu
University of Wisconsin, Madison

Bin Ran
University of Wisconsin, Madison

This paper introduces a mechanism of traffic estimation that measures cell handoff data from cellular phones in moving vehicles, and presents two traffic estimation models: a first-order model that uses traffic speed as the only state variable, and a second-order model that incorporates the flow of traffic as the second state variable.

9:30 a.m. – 12:00 p.m., Hilton (International Ctr.)

Poster Session 446: Historic and Archeological Preservation

Farmsteads in Wisconsin: Decision Tree for Eligibility Decisions (P06-0187)

Robert Stephen Newbery
Wisconsin Department of Transportation

9:30 a.m. – 12:00 p.m., Hilton (International Ctr.)

Poster Session 447: Information Systems and Technology Research

Supported by TOPS

Locating Roadside Servers for Advanced Traveler Information Systems (06-1544)

Jiangang Lu
University of Wisconsin, Madison

Shu Lu
University of Wisconsin, Madison

Bin Ran
University of Wisconsin, Madison

This paper addresses the problem of designing optimal locations for roadside servers used to collect real-time travel information for advanced traveler information systems. The objective is to maximize the information captured about network traffic conditions under certain constraints, such as budget limits.

1:30 p.m. – 3:15 p.m., Marriott (Delaware B)

Session 484: Costing Shared-Use Rail Infrastructure: Adding Apples and Oranges?

Improving Coexistence from a State Department of Transportation Perspective (P06-1046)

Randall E. Wade
Wisconsin Department of Transportation

1:30 p.m. – 3:15 p.m., Marriott (Virginia A)

Session 489: Low-Volume Road Issues

The Safety and Cost-Effectiveness of Approach Guardrail for Bridges on Low Volume Roads (06-1807)

Tim J. Gates
University of Wisconsin, Madison

David A. Noyce
University of Wisconsin, Madison

Bridge approach guardrail is designed to prevent collisions with bridge components and other run-off-the-road crashes. After analyzing nearly 100 crashes, researchers found that crashes at bridges with approach guardrail were much less severe than crashes at bridges without approach guardrail. Based on benefit/cost analysis, the authors recommend approach guardrail be installed on roads with average daily traffic of 400 or more vehicles.

1:30 p.m. – 3:15 p.m., Hilton (Monroe East)

Session 515: Transportation Network Modeling, Part 1 (Part 2, Session 566; Part 3, Session 714)

Supported by TOPS

A Decomposition Scheme for Continuous Network Design Problem with Asymmetric User Equilibrium (06-1268)

Jiangang Lu
University of Wisconsin, Madison

Michael C. Ferris
University of Wisconsin, Madison

This research formulates the continuous network design problem as a mathematical program with complementarity constraints and presents a Gauss-Seidel decomposition scheme for the solution of the MPCC model.

2:30 p.m. – 5:00 p.m., Marriott (Washington)

Poster Session 521: Traffic Control Devices 2006

Supported by TOPS

Potential Application of Flashing Yellow Arrow Permissive Indication in Separated Left-Turn Lanes (06-2531)

David A. Noyce
University of Wisconsin, Madison

NCHRP Report 493 concluded that a flashing yellow arrow permissive indication is an acceptable and recommended application for permissive left turns. This research quantified driver comprehension of the flashing yellow arrow permissive indication as compared to the flashing red arrow indication for use with exclusive left-turn lanes that are separated from the adjacent through/right travel lanes.

2:30 p.m. – 5:00 p.m., Hilton (International Ctr.)

Poster Session 525: Applications of Public Transit Planning

Edward Beimborn (presiding)
University of Wisconsin, Milwaukee

This session includes presentations on comparing bus and rail transit modes; planning and performance evaluation of public transportation during the Athens 2004 Olympics; estimating increased ridership due to integration of two urban transit modes; modeling land use, bus ridership, and air quality; comparing transit alternatives after recent developments in bus rapid transit; and determinants of price in sales of railroad rights-of-way to public transportation agencies.

2:30 p.m. – 5:00 p.m., Hilton (International Ctr.)

Poster Session 526: Bicycle Research and School Transportation

Development of Bicycle and Pedestrian Detection and Classification Algorithm for Active-Infrared Overhead Vehicle Imaging Sensors (06-2094)

David A. Noyce
University of Wisconsin, Madison

This research developed and tested a pedestrian detection and classification algorithm for active-infrared overhead vehicle imaging sensor technology. The new algorithm would allow the active-infrared technology to detect an object (pedestrian or bicycle) and then appropriately classify it. Automating the detection and classification of bicycles and pedestrians can help transportation agencies obtain more comprehensive travel data and better forecast future demand.

3:45 p.m. – 5:30 p.m., Marriott (Cotillion South)

Session 536: Moisture Damage in Hot-Mix Asphalt, Part 2 (Part 1, Session 490)

Supported by WHRP

Evaluation of Hot-Mix Asphalt Moisture Damage in Wisconsin as Related to Pavement Performance (06-1605)

Kunnawee Kanitpong
Asian Institute of Technology, Thailand

Hussain U. Bahia
University of Wisconsin, Madison

This research evaluated the relationship between the performance of asphalt pavements in the field and the outcome of the laboratory Tensile Strength Ratio test (used to predict a mix's susceptibility to moisture damage), and evaluated the effect of anti-stripping additives on field performance.

Supported by WHRP funds for WisDOT research project 0092-05-12, "Test Method to Determine Aggregate/Asphalt Adhesion Properties and Potential Moisture Damage." See project updates at http://www.dot.wisconsin.gov/library/research/reports/asphalt.htm.

3:45 p.m. – 5:30 p.m., Shoreham (Congressional)

Session 547: Current Research in Freight Modeling

Supported by MRUTC

Development of Disaggregate-Level Truck Trip Generation Model: Case Study of Furniture Chain Stores (06-2880)

Hyeon-Shic Shin
University of Illinois, Chicago

Kazuya Kawamura
University of Illinois, Chicago

This research sought to understand the recent trends of goods movements within the changing environment of economy, goods movement behaviors, and logistics and supply chain management, and analyze their impacts on truck trips. The research develops a model of truck trip generation at the disaggregate level that incorporates various decisions made by individual businesses.

Supported by MRUTC funds for research project 05-03, "Business and Site Specific Trip Generation Methodology for Truck Trips." See project updates at http://www.mrutc.org/research/0503/.

TUESDAY, JANUARY 24

7:30 p.m. – 9:30 p.m., Marriott (Delaware B)

Session 571: Geosynthetic Reinforcement of Aggregates: Laboratory Testing

Supported by WHRP

Deflection of Prototype Geosynthetic-Reinforced Working Platforms over Soft Subgrade (06-2285)

Tuncer B. Edil
University of Wisconsin, Madison

This research evaluated reinforced working platforms, used to limit total deflections due to construction traffic, made of four different geosynthetic materials. Findings included that reinforced working platforms deformed at a slower rate than unreinforced working platforms, and that total deflections at 1,000 cycles were about a factor of two smaller for reinforced working platforms relative to unreinforced working platforms.

Supported by WHRP funds for WisDOT research project 0092-45-15, "Effectiveness of Geosynthetics in Stabilizing Soft Subgrades." See project updates at http://www.dot.wisconsin.gov/library/research/reports/geotechnics.htm.

7:30 p.m. – 9:30 p.m., Marriott (Cotillion South)

Session 575: Properties of Concrete: New Developments and New Materials

Supported by WHRP

Comparison of Flat-Bed Scanner and Rapidair 457 System for Determining Air-Void System Parameters of Hardened Concrete (06-0787)

Jeremy Carlson
Michigan Technological University

Lawrence L. Sutter
Michigan Technological University

Thomas John Van Dam
Michigan Technological University

Karl R. Peterson
Michigan Technological University

Many previous projects have worked to develop an automated system to perform ASTM C 457, "Standard Test Method for Microscopical Determination of Parameters of the Air-Void System in Hardened Concrete." This paper presents a method that uses images collected with a standard desktop flatbed scanner; researchers created contrast-enhanced images by filling the voids white and coloring the remainder of the surface black.

Supported by WHRP funds for WisDOT research project 0092-03-16, "Evaluation of Methods for Characterizing Air Void Systems in Wisconsin Paving Concrete." See project updates at http://www.dot.wisconsin.gov/library/research/reports/concrete.htm.

7:30 p.m. – 9:30 p.m., Marriott (Salon 2)

Session 577: Rumble Strip Research

Supported by TOPS

Development and Evaluation of Unique Centerline Rumble Strip Pattern to Improve Driver Comprehension (06-2442)

David A. Noyce
University of Wisconsin, Madison

This research created and evaluated a centerline rumble strip pattern that uses different specifications than the shoulder rumble strip, considering sound and vibration in the vehicle as well as roadway departure angles. Researchers hypothesized that if the shoulder and centerline patterns were different, drivers would be more likely to respond correctly to the rumble strip.

7:30 p.m. – 9:30 p.m., Hilton (Military)

Session 598: The Built Environment and Travel Choices: Unraveling the Relationship

Supported by MRUTC

Pedestrian Activity, Lifestyles, and Residential Location Decisions (06-1776)

Kevin J. Krizek
University of Minnesota

This paper develops and employs a framework to analyze household choices relating to three dimensions of lifestyle: travel patterns (including pedestrian activity), activity participation, and neighborhood characteristics. Using cluster analysis on data from the Twin Cities metropolitan region, researchers developed seven classifications of lifestyle, and discuss the applicability of these lifestyle clusters for land use/transportation planning.

Supported by MRUTC funds for research project 06-07, "Guidelines for Benefit-Cost Analysis of Bicycle Facilities: Refining Methods for Estimating the Effect of Bicycle Infrastructure on Use and Property Value." See project updates at http://www.mrutc.org/research/0607/.

WEDNESDAY, JANUARY 25

8:00 a.m. – 9:45 a.m., Marriott (Delaware A)

Session 602: Forecasting and Performance of Winter Maintenance Operations

Supported by TOPS

Regression Tree Models to Predict Winter Storm Costs (06-1630)

Teresa M. Adams
University of Wisconsin, Madison

Emil Juni
University of Wisconsin, Madison

Michael Sproul
Wisconsin Department of Transportation

Lei Xu
University of Wisconsin, Madison

Tools for estimating winter maintenance costs can lead to better allocation, accountability and management of budgets. This research uses historical data on weather forecasts and maintenance resources to create statistical models for estimating county-level resources for fighting a forecasted snow or freezing rain event.

Supported by TOPS

Analysis of Winter Maintenance Logs Using Regression Tree Algorithm (06-1774)

Chanyoung Lee
University of Wisconsin, Madison

Bin Ran
University of Wisconsin, Madison

Xiao Qin
University of Wisconsin, Madison

This study used a regression tree algorithm to analyze major contributing variables to speed recovery duration, the time interval from when a winter weather event starts to when the roadway is restored to wet pavement. The study analyzed data from over 12,500 archived Wisconsin storm reports in an effort to quantify and improve winter maintenance activities.

8:00 a.m. – 9:45 a.m., Marriott (Virginia B)

Session 611: Structures Management: Development, Implementation, and Use of Information Systems

Development and Implementation of Highway Structures Information System for Wisconsin Department of Transportation (06-1104)

Scot Becker
Wisconsin Department of Transportation

Travis McDaniel
Wisconsin Department of Transportation

This paper outlines WisDOT's development of its Highway Structures Information System, an asset management system for all state and locally maintained structures. The online system gives state and local program managers real-time performance data, enabling them to make informed resource allocation decisions.

8:00 a.m. – 9:45 a.m., Hilton (Lincoln West)

Session 620: Application of Statewide Travel Demand Forecasting Models

Enhancing MPO Travel Models with Statewide Model Inputs: Application from Wisconsin (06-0346)

David Cipra
Wisconsin Department of Transportation

Bruce Aunet
Wisconsin Department of Transportation

WisDOT has developed a multimodal statewide travel demand model and eight new Metropolitan Planning Organization urban travel models. The statewide model's forecasts were integrated into each urban model at the cordon line (external) stations, which enhanced the performance of the urban models and accounted for factors that the urban models alone could not reflect.

8:00 a.m. – 9:45 a.m., Hilton (Monroe East)

Session 624: Network Equilibrium and Traffic Assignment Models

A Link-Node Complementarity Formulation and Its Solution Algorithm for Asymmetric Traffic Assignment (06-1269)

Michael C. Ferris
University of Wisconsin, Madison

This paper presents a complementarity formulation and its solution algorithm for asymmetric traffic assignment. The proposed model and algorithm can efficiently solve medium-sized asymmetric traffic assignment problems, and have the potential to be applied to large-scale problems as well.

8:00 a.m. – 9:45 a.m., Hilton (Jefferson West)

Session 628: Transit Planning and Performance: Tools and Factors

Edward Beimborn (presiding)
University of Wisconsin, Milwaukee

This session includes presentations on sketch models for forecasting commuter and light rail ridership; sketch transit modeling based on 2000 Census data; cost per user as a key factor in project prioritization; reassessing passenger mile data for transit planning; and examining the influence of multidestination service orientation on transit productivity change.

9:30 a.m. – 12:00 p.m., Marriott (Washington)

Poster Session 632: Asphalt Binder Characterization

Supported by WHRP

Nonlinearity of Creep and Recovery Binder Test and Relationship with Mixture Permanent Deformation (06-3016)

Rodrigo A. Delgadillo
University of Wisconsin, Madison

Dong-Woo Cho
University of Wisconsin, Madison

Hussain U. Bahia
University of Wisconsin, Madison

The creep and recovery test is a relatively new method of ranking asphalt binders based on rutting resistance. Previous research has indicated that the test protocol should be modified to include stress dependency of binders, since actual field stresses of binders may be much higher than what is proposed in the test. This paper evaluates the impact of stress dependency.

Supported by WHRP funds for WisDOT research project 0092-03-13, "Field Validation of Wisconsin Modified Binder Selection Guidelines." See project updates at http://www.dot.wisconsin.gov/library/research/reports/asphalt.htm.

Effect of Testing Geometry on Measuring Fatigue of Asphalt Binders and Mastics (P06-1334)

Wilfung Martono
University of Wisconsin, Madison

Hussain U. Bahia
University of Wisconsin, Madison

Asphalt binder fatigue testing in the dynamic shear rheometer often uses parallel plate geometry. However, recent studies have questioned whether parallel plates may cause instability in test samples at some stiffness levels. This paper compares fatigue testing using parallel plates and using torsion cylinders, a new type of sample geometry that was found to offer more repeatable test results.

9:30 a.m. – 12:00 p.m., Shoreham (Blue Room Foyer)

Poster Session 642: Freight Systems and Marine Transportation Research

Supported by MRUTC

Where to Put E-Screening Facilities?—A Regional Perspective (06-0912)

Ujaval Gandhi
Midwest Regional University Transportation Center

Teresa M. Adams
University of Wisconsin, Madison

Electronic screening is an important application of the national Commercial Vehicle Information Systems and Networks program for improving the effectiveness of regulatory enforcement, and the efficiency and safety of highway freight movement. This paper presents a GIS-based approach to identifying opportunities for regional collaboration on e-screening deployment that maximizes benefits along the Upper Midwest freight corridor.

Supported by MRUTC funds for research project 04-06, "Upper Midwest Freight Corridor Study." See project updates at http://www.uppermidwestfreight.org/.

10:15 a.m. – 12:00 p.m., Marriott (Delaware A)

Session 657: Safety and Environmental Aspects of Winter Maintenance

Supported by TOPS

Snowstorm Event-Based Crash Analysis (06-2369)

Xiao Qin
University of Wisconsin, Madison

David A. Noyce
University of Wisconsin, Madison

Chanyoung Lee
University of Wisconsin, Madison

This study investigated the effect of winter maintenance efforts on improving highway safety, and found that proactive winter maintenance can significantly improve traffic safety. Among other results, researchers found that a large percentage of the crashes studied occurred during the initial stages of a snowstorm, likely because snow removal activities had not yet begun.

10:15 a.m. – 12:00 p.m., Marriott (Salon 1)

Session 659: Superpave Mix Design, Longitudinal Joints, and Permeability of Hot-Mix Asphalt

Supported by WHRP

Comparative Analysis of Field Permeability Testing of Compacted Hot-Mix Asphalt Pavements Using Air and Water Permeameters (06-0777)

James A. Crovetti
Marquette University

Jacques Menard
Washington State Department of Transportation

This paper presents the results of field permeability tests conducted on newly constructed asphalt pavements using both water and air permeameters. The data indicates that currently accepted water permeameter test methods may not produce repeatable results for all pavement types investigated. In contrast, test data obtained with the air permeameter indicate good repeatability for all included pavement types.

Supported by WHRP funds for WisDOT research project 0092-02-14c, "The Effect of Pavement Lift Thickness on Superpave Mix Permeability and Density." See the final report and research brief at http://www.dot.wisconsin.gov/library/research/reports/asphalt.htm.

10:15 a.m. – 12:00 p.m., Shoreham (Diplomat)

Session 663: Air-Rail Links: Which Rail Mode Works Best?

Intercity Rail for Milwaukee Airport (P06-0581)

Randall E. Wade
Wisconsin Department of Transportation

2:30 p.m. – 4:00 p.m., Marriott (Maryland C)

Session 690: Maintenance Quality Measures and Assessments

Supported by MRUTC

A Synthesis of Measures for Highway Maintenance Quality Assurance (06-0966)

Teresa M. Adams
University of Wisconsin, Madison

Janille A. Smith
University of Wisconsin, Madison

Maintenance quality assurance programs help decision-makers understand maintenance conditions, set priorities, and document the relationship between dollars spent and outcomes. This paper presents a synthesis of MQA measures used by 26 state transportation agencies, and a set of terms essential to MQA.

Supported by MRUTC funds for WisDOT research project 0092-05-19, "Maintenance Quality Assurance Workshop—Synthesis of Activities." See the final report at http://www.mrutc.org/research/0601/.

Supported by MRUTC

Understanding Statistics in Maintenance Quality Assurance Programs (06-2924)

Robert Schmitt
University of Wisconsin, Platteville

This paper's objective is to help maintenance practitioners understand and use statistics in maintenance quality assurance programs. As an example, researchers analyzed hazardous debris data and level of service data to demonstrate how an agency can apply traditional statistical methods such as analysis of variance, confidence limits, means comparison, data stratification, and sample size determination to an MQA program.

Supported by MRUTC funds for research project 06-04, "Development of a Guide to Statistics for Maintenance Quality Assurance Programs in Transportation." See project updates at http://www.mrutc.org/research/0604/.

2:30 p.m. – 4:00 p.m., Hilton (International East)

Session 709: Transit Innovations and Enhancements

Examination of Process of Innovation at Transit Systems (06-0559)

Lynda Hikichi
University of Wisconsin, Milwaukee

Edward Beimborn
University of Wisconsin, Milwaukee

This research studied the innovation process in transit agencies. Researchers found that innovation is mostly likely to occur when there is a need to improve service, a champion to lead and coordinate the effort, and a source of funds for planning and implementing the innovation.

Performance Enhancement for Online Transit Trip Planning Systems: Effective Dynamic Reduction of Transit Network (06-2675)

Zhong-Ren Peng
University of Wisconsin, Milwaukee

Eok Kim
University of Wisconsin, Milwaukee

Yanlin Weng
University of Wisconsin, Milwaukee

Good performance is crucial to a successful online transit trip planning system. This paper presents a new method of improving system performance by dynamically reducing the size of a transit network based on trip origin, destination and the time of travel. This method suppresses unreasonable paths and redundant transfers while running the path finding algorithm.

2:30 p.m. – 5:00 p.m., Hilton (International Ctr.)

Poster Session 712: Route Choice, Spatial Behavior, and Role of Travel Time

Experimental Measurement of Diversion Owing to Ramp Meters (06-1734)

Alan J. Horowitz
University of Wisconsin, Milwaukee

John Corbin
Wisconsin Department of Transportation

This study evaluated ramp metering on US 45 for its effectiveness, including associated diversions of traffic. Some diversion to alternate routes occurred, and analysis of origin-destination tables showed that there was a reduction in very short trips. Questionnaire responses indicated that drivers knowledgeable about alternative routes were willing to divert to avoid delays.

2:30 p.m. – 5:00 p.m., Hilton (International Ctr.)

Poster Session 714: Transportation Network Modeling, Part 3 (Part 1, Session 515; Part 2, Session 566)

Supported by TOPS

Decomposition Scheme for Continuous Network Design Problem with Asymmetric User Equilibrium (06-1268) (P06-1265)

Jiangang Lu
University of Wisconsin, Madison

Michael C. Ferris
University of Wisconsin, Madison

Origin-Based Algorithm for Asymmetric Traffic Assignment (06-1269) (P06-1308)

Michael C. Ferris
University of Wisconsin, Madison

WEDNESDAY, JANUARY 25

4:30 p.m. – 6:00 p.m., Hilton (Thoroughbred)

Session 730: Assessing Applicability of Advanced Computing to Transportation Problems

Supported by TOPS

Travel Time Prediction in Presence of Traffic Incidents Using Different Types of Neural Networks (06-2512)

Yang Tao
University of Wisconsin, Madison

Zhijun Qiu
University of Wisconsin, Madison

Bin Ran
University of Wisconsin, Madison

This research uses three different types of artificial neural networks to model corridor travel time prediction in the presence of traffic incidents using data collected from a highway corridor in northern Virginia. The results indicate that different types of neural networks may specialize in different portions of the input pattern space.

4:30 p.m. – 6:00 p.m., Hilton (Monroe West)

Session 731: Asset Management as a Teenager: Out in the World, But Still Learning

Supported by MRUTC

Transportation Asset Management in For-Credit Higher Education Course Offerings (06-2557)

Jason John Bittner
University of Wisconsin, Madison

This paper reflects an analysis of university-based courses and programs in transportation asset management, and presents nine common elements among the courses that represent the current state of the practice. This research also compares the National Highway Institute's short course modules with the common elements of the university-based programs.

Supported by MRUTC funds for WisDOT research project 0092-05-23, "Documenting Training Opportunities Related to Transportation Asset Management." See project updates at http://www.mrutc.org/research/0602/.

THURSDAY, JANUARY 26

8:00 a.m. – 9:45 a.m., Marriott (Salon 1)

Session 801: Asphalt Concrete Mixture Characterization for Mechanistic-Empirical Design

Supported by WHRP

Pavement Design Analysis Using AASHTO 2002 Design Guide Software (06-1703)

Christopher J. Robinette
Michigan Technological University

R. Christopher Williams
Iowa State University

This paper examines the use of the dynamic modulus test and its impact on asphalt pavement design with the AASHTO 2002 Design Guide and its associated software. Researchers studied three pavements constructed in 2004, investigating the major distresses of permanent deformation and fatigue and examining changes in air voids and asphalt binder content.

Supported by WHRP funds for WisDOT research project 0092-04-07, "Testing Wisconsin Asphalt Mixtures for the AASHTO 2002 Mechanistic Design Procedure." See project updates at http://www.dot.wisconsin.gov/library/research/reports/asphalt.htm.

Cross-Reference Guide

This section shows presentations listed in the guide that are supported with WHRP, MRUTC and TOPS research funds. See the individual listings on pages 3–10 for more information on many of these papers.

Supported by WHRP

Monday, 3:45 p.m. – 5:30 p.m., Marriott (Virginia C)

Session 343: Pavement Preservation: Construction and Performance Standards

Impact of Increasing Roadway Construction Standards on Life-Cycle Costs of Local Residential Streets (06-2977)

Leslie Titus-Glover, David Hein, Shreenath Rao & Kelly Smith
Applied Research Associates, Inc.

Monday, 7:30 p.m. – 9:30 p.m., Marriott (Virginia B)

Session 372: Evaluation of Subgrade Resilient Modulus

Evaluation of Resilient Modulus Model Parameters for Mechanistic-Empirical Pavement Design (06-2308)

Hani H. Titi
University of Wisconsin, Milwaukee

Tuesday, 3:45 p.m. – 5:30 p.m., Marriott (Cotillion South)

Session 536: Moisture Damage in Hot-Mix Asphalt, Part 2

Evaluation of Hot-Mix Asphalt Moisture Damage in Wisconsin as Related to Pavement Performance (06-1605)

Kunnawee Kanitpong
Asian Institute of Technology, Thailand

Hussain U. Bahia
University of Wisconsin, Madison

Tuesday, 7:30 p.m. – 9:30 p.m., Marriott (Delaware B)

Session 571: Geosynthetic Reinforcement of Aggregates: Laboratory Testing

Deflection of Prototype Geosynthetic-Reinforced Working Platforms over Soft Subgrade (06-2285)

Tuncer B. Edil
University of Wisconsin, Madison

Tuesday, 7:30 p.m. – 9:30 p.m., Marriott (Cotillion South)

Session 575: Properties of Concrete: New Developments and New Materials

Comparison of Flat-Bed Scanner and Rapidair 457 System for Determining Air-Void System Parameters of Hardened Concrete (06-0787)

Jeremy Carlson, Lawrence L. Sutter, Thomas John Van Dam & Karl R. Peterson
Michigan Technological University

Wednesday, 9:30 a.m. – 12:00 p.m., Marriott (Washington)

Poster Session 632: Asphalt Binder Characterization

Nonlinearity of Creep and Recovery Binder Test and Relationship with Mixture Permanent Deformation (06-3016)

Rodrigo A. Delgadillo, Dong-Woo Cho & Hussain U. Bahia
University of Wisconsin, Madison

Wednesday, 10:15 a.m. – 12:00 p.m., Marriott (Salon 1)

Session 659: Superpave Mix Design, Longitudinal Joints, and Permeability of Hot-Mix Asphalt

Comparative Analysis of Field Permeability Testing of Compacted Hot-Mix Asphalt Pavements Using Air and Water Permeameters (06-0777)

James A. Crovetti
Marquette University

Jacques Menard
Washington State Department of Transportation

Thursday, 8:00 a.m. – 9:45 a.m., Marriott (Salon 1)

Session 801: Asphalt Concrete Mixture Characterization for Mechanistic-Empirical Design

Pavement Design Analysis Using AASHTO 2002 Design Guide Software (06-1703)

Christopher J. Robinette
Michigan Technological University

R. Christopher Williams
Iowa State University

Supported by MRUTC

Monday, 9:30 a.m. – 12:00 p.m., Shoreham (Blue Room Foyer)

Poster Session 240: Current Issues and Challenges Facing Pavement Management Systems

Using Remote Sensor Data to Estimate Pavement Performance Models (06-0388)

Chih-Yuan Chu & Pablo Luis Durango-Cohen
Northwestern University

Monday, 9:30 a.m. – 12:00 p.m., Hilton (International Ctr.)

Poster Session 245: Tools for States and Locals: Performance Measures, Asset Management, and Data Management Tools to Improve Communication and Decision Making

Managing Local Roads with Wisconsin Information System for Local Roads (P06-0237)

Mary R. Ebeling & Jason John Bittner
University of Wisconsin, Madison

Tuesday, 3:45 p.m. – 5:30 p.m., Shoreham (Congressional)

Session 547: Current Research in Freight Modeling

Development of Disaggregate-Level Truck Trip Generation Model: Case Study of Furniture Chain Stores (06-2880)

Hyeon-Shic Shin & Kazuya Kawamura
University of Illinois, Chicago

Tuesday, 7:30 p.m. – 9:30 p.m., Hilton (Military)

Session 598: The Built Environment and Travel Choices: Unraveling the Relationship

Pedestrian Activity, Lifestyles, and Residential Location Decisions (06-1776)

Kevin J. Krizek
University of Minnesota

Wednesday, 9:30 a.m. – 12:00 p.m., Shoreham (Blue Rm. Foyer)

Poster Session 642: Freight Systems and Marine Transportation Research

Where to Put E-Screening Facilities? —A Regional Perspective (06-0912)

Ujaval Gandhi
Midwest Regional University Transportation Center

Teresa M. Adams
University of Wisconsin, Madison

Supported by MRUTC (cont.)

Wednesday, 2:30 p.m. – 4:00 p.m., Marriott (Maryland C)

Session 690: Maintenance Quality Measures and Assessments

A Synthesis of Measures for Highway Maintenance Quality Assurance (06-0966)

Teresa M. Adams & Janille A. Smith
University of Wisconsin, Madison

Understanding Statistics in Maintenance Quality Assurance Programs (06-2924)

Robert Schmitt
University of Wisconsin, Platteville

Wednesday, 4:30 p.m. – 6:00 p.m., Hilton (Monroe West)

Session 731: Asset Management as a Teenager: Out in the World, But Still Learning

Transportation Asset Management in For-Credit Higher Education Course Offerings (06-2557)

Jason John Bittner
University of Wisconsin, Madison

Supported by TOPS

Monday, 9:30 a.m. – 12:00 p.m., Marriott (Washington)

Poster Session 239: Safety Data Analysis and Evaluation

Analysis of the Magnitude and Predictability of Median Crossover Crashes Utilizing Logistic Regression (06-2681)

Xiaozhao Lu, David A. Noyce & Regan J. McKendry
University of Wisconsin, Madison

Monday, 1:30 p.m. – 3:15 p.m., Marriott (Virginia C)

Session 289: Pavement Preservation: Getting Started

Considerations for Establishing a Pavement Preservation Program (06-2490)

Teresa M. Adams & Myungook Kang
University of Wisconsin, Madison

Monday, 3:45 p.m. – 5:30 p.m., Hilton (Hemisphere)

Session 356: Advanced Computing and Transportation Decision Support

Moments Analysis for Improving Decision Reliability Based on Travel Time (06-1373)

Jiangang Lu & Bin Ran
University of Wisconsin, Madison

Supported by TOPS (cont.)

Tuesday, 8:00 a.m. – 9:45 a.m., Marriott (Maryland C)

Session 400: Accessible Pedestrian Signals and Walking Speeds

Recommended Walking Speeds for Pedestrian Clearance Timing Based on Pedestrian Characteristics (06-1826)

Tim J. Gates, David A. Noyce, Andrea R. Bill & Nathanael Van Ee
University of Wisconsin, Madison

Tuesday, 9:30 a.m. – 12:00 p.m., Marriott (Washington)

Poster Session 440: Pedestrians and Safety

Analysis of Driver and Pedestrian Comprehension of Requirements for Permissive Left-Turn Applications (06-2635)

David A. Noyce
University of Wisconsin, Madison

Tuesday, 9:30 a.m. – 12:00 p.m., Hilton (International Ctr.)

Poster Session 444: Artificial Intelligence Tools for Transportation Data Modeling

Traffic Estimation Based on Particle Filtering with Stochastic State Reconstruction Using Mobile Network Data (06-2395)

Zhijun Qiu & Bin Ran
University of Wisconsin, Madison

Tuesday, 9:30 a.m. – 12:00 p.m., Hilton (International Ctr.)

Poster Session 447: Information Systems and Technology Research

Locating Roadside Servers for Advanced Traveler Information Systems (06-1544)

Jiangang Lu, Shu Lu & Bin Ran
University of Wisconsin, Madison

Tuesday, 1:30 p.m. – 3:15 p.m., Hilton (Monroe East)

Session 515: Transportation Network Modeling, Part 1

A Decomposition Scheme for Continuous Network Design Problem with Asymmetric User Equilibrium (06-1268)

Jiangang Lu & Michael C. Ferris
University of Wisconsin, Madison

Tuesday, 2:30 p.m. – 5:00 p.m., Marriott (Washington)

Poster Session 521: Traffic Control Devices 2006

Potential Application of Flashing Yellow Arrow Permissive Indication in Separated Left-Turn Lanes (06-2531)

David A. Noyce
University of Wisconsin, Madison

Tuesday, 7:30 p.m. – 9:30 p.m., Marriott (Salon 2)

Session 577: Rumble Strip Research

Development and Evaluation of Unique Centerline Rumble Strip Pattern to Improve Driver Comprehension (06-2442)

David A. Noyce
University of Wisconsin, Madison

Wednesday, 8:00 a.m. – 9:45 a.m., Marriott (Delaware A)

Session 602: Forecasting and Performance of Winter Maintenance Operations

Regression Tree Models to Predict Winter Storm Costs (06-1630)

Teresa M. Adams, Emil Juni & Lei Xu
University of Wisconsin, Madison

Michael Sproul
Wisconsin Department of Transportation

Analysis of Winter Maintenance Logs Using Regression Tree Algorithm (06-1774)

Chanyoung Lee, Bin Ran & Xiao Qin
University of Wisconsin, Madison

Wednesday, 10:15 a.m. – 12:00 p.m., Marriott (Delaware A)

Session 657: Safety and Environmental Aspects of Winter Maintenance

Snowstorm Event-Based Crash Analysis (06-2369)

Xiao Qin, David A. Noyce & Chanyoung Lee
University of Wisconsin, Madison

Wednesday, 2:30 p.m. – 5:00 p.m., Hilton (International Ctr.)

Poster Session 714: Transportation Network Modeling, Part 3

Decomposition Scheme for Continuous Network Design Problem with Asymmetric User Equilibrium (06-1268) (P06-1265)

Jiangang Lu & Michael C. Ferris
University of Wisconsin, Madison

Wednesday, 4:30 p.m. – 6:00 p.m., Hilton (Thoroughbred)

Session 730: Assessing Applicability of Advanced Computing to Transportation Problems

Travel Time Prediction in Presence of Traffic Incidents Using Different Types of Neural Networks (06-2512)

Yang Tao, Zhijun Qiu & Bin Ran
University of Wisconsin, Madison

TRB Committee Members

WisDOT

Balu Ananthanarayanan, DTSD

NCHRP Project Panels on:

- Visibility Performance Requirements for Vehicular Traffic Signals
- Traffic Signal State Transition Logic Using Enhanced Sensor Information (Chair)
- Guidelines for Roadway Lighting Based on Safety Benefits and Costs

Sandra Beaupre, DTIM

NCHRP Project Panel on Development of a Statewide Corridor Planning Guidebook

Scot Becker, DTSD

NCHRP Project Panels on:

- Effective Slab Width for Composite Steel Bridge Members
- Heat-Straightening Repair of Damaged Steel Bridge Girders: Fatigue and Fracture Performance
- Bridge Deck Design Criteria and Testing Procedures

Thomas Brokaw, DTSD

NCHRP Project Panel on Quality Characteristics of Hot-Mix Asphalt Pavements for Use in Performance-Related-Specs

John Corbin, DTSD

Committee on Freeway Operations

NCHRP Project Panels on:

- Emergency Traffic Operations Management
- Transportation Response Options: Scenarios of Infectious Disease, Biological Agents, Chemical, Biological, Radiological, or Nuclear Exposure
- A Guide to Emergency Response Planning for Transportation (Chair)

Susie Forde, DTIM

Committee on Statewide Transportation Data and Information Systems

Thomas Huber, DTIM

NCHRP Project Panels on:

- Methodology to Predict the Safety Performance of Urban and Suburban Arterials
- Multimodal Arterial Level of Service

Eugene Johnson, DTSD

Committees on:

- Section – Construction
- Disadvantaged Business Enterprises (DBE) (Chair)

Peter Kemp, DTSD

NCHRP Project Panel on Procedures for Testing and Evaluating Detectable Warning Systems (Chair)

Steven Krebs, DTSD

Committee on Subsurface Drainage

NCHRP Project Panel on Endurance Limit of Hot Mix Asphalt Mixtures to Prevent Fatigue Cracking in Flexible Pavements (AASHTO Monitor)

David Larson, DTSD

NCHRP Project Panels on:

- Secure Communication Infrastructure (Chair)
- Methods for Determining Transportation and Economic Consequences of Terrorist Attacks (Chair)

Alison Lebwohl, OPBF

Committee on Maintenance and Operations Management

Wendy Maves, DTSD

NCHRP Project Panel on TRAC PAC2—A Hands-on Educational Program

William McDaniel, DTSD

NCHRP Project Panel on Protocols for Collecting and Using Traffic Data in Bridge Design

Nina McLawhorn, DBM

WisDOT TRB State Representative

Committee on Library and Information Science for Transportation

Committee for a Future Strategy for Transportation Information Management

Donald Miller, DTSD

NCHRP Project Panels on:

- Best-Value Procurement Methods for Highway Construction Projects
- Effects of Incentive and Disincentive Contract Provisions on Highway Construction Duration and Quality (Chair)

Robert Newbery, DTSD

NCHRP Project Panel on Review and Improvement of the Existing Processes and Procedures for Evaluating Cultural Resource

Committee on Transportation History

Thomas Notbohm, DTSD

NCHRP Panel on Development of Guidelines to Improve Safety During Nighttime Construction or System Preservation Work

William Oliva, DTSD

NCHRP Project Panels on:

- Development of Portable Scour Monitoring Equipment
- Effects of Debris on Pier Scour at Bridges (Chair)
- Effects of Fractured or Degradable Rock on Pier Scour at Bridges (Chair)

WisDOT Acronyms

DBM
Division of Business Management

DTIM
Division of Transportation Investment Management

DTSD
Division of Transportation System Development

OGC
Office of General Counsel

OPBF
Office of Policy, Budget and Finance

TRB Committee Members

Karen Olson, DTSD

NCHRP Project Panel on Highway Capacity Manual: Applications Handbook

Robert Pearson, DTSD

Committee on Waste Management in Transportation

Cari Anne Renlund, OGC

Committee on Contract Law

Judie Ryan, DTSD

NCHRP Project Panel on Improved Test Procedure for Determining the Moisture Damage Susceptibility of Bituminous Pavements

James Thiel, OGC

Committees on:

- Legal Resources Group
- Environmental Issues in Transportation Law
- Transit and Intermodal Transportation Law

NCHRP Project Panel on Legal Problems Arising Out of Highway Programs (Chair)

David Vieth, DTSD

Committees on:

- Maintenance and Operations Personnel
- Winter Maintenance

Randall Wade, DTIM

Committee on Intercity Rail Passenger Systems

Jay Waldschmidt, DTSD

Committee on Transportation-Related Noise and Vibration

Jeffrey Western, DTSD

Committees on:

- Policy and Organization Group
- Information Systems and Technology
- National Transportation Data Requirements and Programs
- Critical Transportation Infrastructure Protection (Chair)
- Section – Transportation Policy

NCHRP Project Panels on:

- Surface Transportation Security Research
- AASHTO Guide to Risk Management of Multimodal Transportation Infrastructure (Chair)

Gary Whited, DTSD

NCHRP Project Panels on:

- Performance-Related Specifications for Hot-Mix Asphalt Construction
- Issues Involving Delays in Completing Federal-Aid Highway and Bridge Projects

Committee on TRB Long-Term Pavement Performance (LTPP)

Mark Wolfgram, DTIM

NCHRP Project Panels on:

- Analytic Tools Supporting Transportation Asset Management (Chair)
- Financial Management for Effective Program Delivery

WisDOT Acronyms

DBM
Division of Business Management

DTIM
Division of Transportation Investment Management

DTSD
Division of Transportation System Development

OGC
Office of General Counsel

OPBF
Office of Policy, Budget and Finance

University of Wisconsin, Madison

Teresa Adams
Director, Midwest Regional University Transportation Center

Committees on:

- Structures Maintenance
- Information Systems and Technology
- Spatial Data and Information Science

Hussain Bahia
Director, Wisconsin Highway Research Program

Committees on:

- Characteristics of Bituminous Materials
- Characteristics of Nonbituminous Components of Bituminous Paving Mixtures
- Characteristics of Bituminous-Aggregate Combinations to Meet Surface Requirements

NCHRP Project Panel on Superpave Support and Performance Models Management

Jason Bittner
Deputy Director, Midwest Regional University Transportation Center

Committee on Conduct of Research

Peter Bosscher
Professor

Committee on Soils and Rock Instrumentation

NCHRP Project Panel on Development of Portable Scour Monitoring Equipment

Tuncer Edil
Professor

Committee on Soil and Rock Properties

Tim Gates
Graduate Research Fellow

Committee on Traffic Control Devices (Young Member)

Keith Knapp
Assistant Professor

Committee on Operational Effects of Geometrics

TRB Committee Members

David Noyce
Co-Director, Wisconsin Traffic Operations and Safety Laboratory

Committee on Traffic Control Devices

NCHRP Project Panels on:

Communicating Changes in Horizontal Alignment (Chair)

Safety of U-Turns at Unsignalized Intersection/Median Openings

University Representative

Michael Oliva
Professor

NCHRP Project Panel on Evaluation of CIP Reinforced Joints for Full-Depth Precast Concrete Bridge Decks

Xiao Qin
Associate Researcher

Committee on Statistical Methodology and Statistical Computer Software in Transportation Research

Bin Ran
Co-Director, Wisconsin Traffic Operations and Safety Laboratory

Committees on:

Transportation Network Modeling

Information Systems and Technology (Secretary)

Howard Rosen
Program Director

Committee on Transportation History

Janille Smith
Student

Committee on International Activities (Young Member)

Donald Walker
Director, Wisconsin Transportation Information Center

Committee on Winter Maintenance (Emeritus Member)

Barbara Wolfe
Professor

TCRP Project Panel on Cost Benefit Analysis of Providing Non-emergency Medical Transportation Benefits

University of Wisconsin, Milwaukee

Edward Beimborn
Director, Center for Urban Transportation Studies

Committees on:

Public Transportation Group

Public Transportation Planning and Development (Chair)

TCRP Project Panel on Transit-Oriented Joint Development: State of the Practice, Future

Alan Horowitz
Professor

Committee on Transportation Demand Forecasting

University Representative

Zhong-Ren Peng
Associate Professor

Committee on Spatial Data and Information Science

Hani Titi
Assistant Professor

Committees on:

Foundations of Bridges and Other Structures

Exploration and Classification of Earth Materials

Soil and Rock Properties

Physicochemical Phenomena in Soils

University of Wisconsin, Platteville

Thomas Nelson
Professor

Committee on Pavement Maintenance

Sam Owusu-Ababio
Professor

University Representative

University of Wisconsin, Superior

Richard Stewart
Director, Transportation and Logistics Research Center

Committee on Ports and Channels

Xiubin Wang
Assistant Professor

Committee on New Public Transportation Systems and Technology

Marquette University

James Crovetti
Associate Professor

Committee on Rigid Pavement Design

Alexander Drakopoulos
Associate Professor

TRB Information Services Committee

University Representative

David Kuemmel
Visiting Professor

Committee on Winter Maintenance (Emeritus Member)

NCHRP Project Panels on:

Guidelines for Accessible Pedestrian Signals (APS)

Performance Measures for Snow and Ice Control Operations

Ronald Sonntag
Adjunct Associate Professor

NCHRP Project Panels on:

Analysis of Freeway Weaving Sections

Low-Cost Improvements for Recurring Freeway Bottlenecks

University Transportation Center

2005 Student of the Year in Transportation

Andrea R. Bill

University of Wisconsin-Madison

Award to be presented at the Council of University Transportation Centers Ninth Annual Awards Banquet and Winter Meeting

Saturday, January 21, 2006

Palladian Ballroom, Omni Shoreham Hotel

Andrea Bill is a graduate student and research/teaching assistant at the University of Wisconsin-Madison pursuing a Ph.D. in Civil and Environmental Engineering, with an emphasis in traffic engineering and safety. Andi researches various transportation safety topics, most recently issues related to young driver crashes. Prior to enrolling at UW-Madison, Andi spent two years as an associate researcher at the Massachusetts Traffic Safety Research Program, where she researched crash safety statistics and the effects of crash countermeasures. Andi received a B.S. in Civil Engineering from the University of Massachusetts, Amherst, in 2002 and a B.A. in Physics and Classics from Mount Holyoke College in 2001.

Andi was recently awarded a Federal Highway Administration Dwight D. Eisenhower Graduate Fellowship. She serves as president of the UW-Madison student chapter of the Institute of Transportation Engineers, and is also a member of Chi Epsilon (National Civil Engineering Honor Society) and Sigma Pi Sigma (National Physics Honor Society). When not in class or at the office, Andi is an avid horseback rider who has won several national awards and enjoys giving riding lessons.

Andi has a presentation in Session 400 on Tuesday, January 24: "Recommended Walking Speeds for Pedestrian Clearance Timing Based on Pedestrian Characteristics."

www.dot.wisconsin.gov

www.topslab.wisc.edu

www.mrutc.org

www.whrp.org

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